The Future of Center-Based, Multidisciplinary Engineering Research

Point of Contact: Dr. Greg Eyring, geyring@nas.edu
Study Timeline

Received Funding
July 15, 2015

Final Report Due
January 2017 (18-month study)

First Committee Meeting
December 14-15, 2015
Keck Center, Washington D.C.

Kickoff Symposium
January 25, 2016
Keck Center, Washington D.C.
Statement of Task

An ad hoc study committee will develop a vision and high-level, strategic recommendations for the future of NSF-supported center-scale, multidisciplinary engineering research. The study will be forward-looking — focusing on the forces that are likely to shape engineering research, education, and technological innovation in the future, as well as the associated challenges and opportunities. It will consider and evaluate the most promising models and approaches for multidisciplinary engineering research that can successfully address these challenges and opportunities. NSF's Engineering Research Centers will be used as prominent examples or cases in the study, but the intent is not to evaluate them. The study will also be informed by other models of large-scale, multidisciplinary engineering research in the United States and other parts of the world.
Statement of Task (continued)

The products of the committee’s work will be: (1) a rapporteur-authored summary of a symposium, and (2), a final consensus report containing committee findings and strategic recommendations that include inspiring visions for center-scale research in engineering over the next 10-20 years, new models for innovation that connect center research to real-world impacts, the appropriate role and emerging models for such centers in education and broadening participation, and how to continuously enable breakthrough engineering research by attracting the most innovative and diverse talent in the field. **The report will focus on describing visions and opportunities for the future of multidisciplinary center-scale engineering programs, and presenting guiding principles and strategic recommendations for realizing the new visions and opportunities rather than evaluating the current center construct and suggesting evolutionary improvements.**
Committee Status

Co-Chairs Approved:  David Walt (NAE, Tufts)
Maxine Savitz (NAE, retired Honeywell)

Committee Members:  14 nominations in the approval process

Composition:  Diverse group featuring expertise in a variety of engineering disciplines, university and industry perspectives, engineering education, outreach to K-12, innovation, technology transfer, STEM policy, and experience with ERCs
First Committee Meeting

Dates: Monday-Tuesday, December 14-15, Keck Center

Purpose: Get committee together and give them a grounding in center-based programs including ERCs, history, accomplishments, and challenges for the future.

Request: NSF representative to provide overview of expectations and criteria for success of the study on December 14.
Kickoff Symposium

Date: Monday, January 25, 2016, Keck Center

Purpose: Discuss forces likely to shape the future of center-based engineering research

Format: Plenary speakers plus breakout sessions to elicit ideas from the attendees; summary authored by a rapporteur

Request: NSF representative to open the symposium and set the stage